

3-1-2021

Extension's Potential to Respond to Suburban Food Insecurity

Daniel T. Remley

Ohio State University Extension, remley.4@osu.edu

Glennon Sweeney

Kirwan Institute

Julie Fox

Ohio State University

Laquore J. Meadows

Ohio State University

Follow this and additional works at: <https://scholarsjunction.msstate.edu/jhse>



Part of the [Life Sciences Commons](#), and the [Medicine and Health Sciences Commons](#)

Recommended Citation

Remley, D. T., Sweeney, G., Fox, J., & Meadows, L. J. (2021). Extension's Potential to Respond to Suburban Food Insecurity. *Journal of Human Sciences and Extension*, 9(1), 12.

<https://scholarsjunction.msstate.edu/jhse/vol9/iss1/12>

This Practice and Pedagogy is brought to you for free and open access by Scholars Junction. It has been accepted for inclusion in *Journal of Human Sciences and Extension* by an authorized editor of Scholars Junction. For more information, please contact scholcomm@msstate.libanswers.com.

Extension's Potential to Respond to Suburban Food Insecurity

Acknowledgments

The authors wish to acknowledge Michelle Gaston, Ohio State University Extension program coordinator, for her editing and formatting assistance.

Extension's Potential to Respond to Suburban Food Insecurity

Daniel T. Remley

Ohio State University

Glennon Sweeney

Kirwan Institute

Julie Fox

Laquore J. Meadows

Ohio State University

Between 2000 and 2013, the suburbs in the country's largest metro areas saw their low-income population grow twice as fast as primary urban cities. In 2018, the Pew Research Center reported that poverty increased more sharply in suburbs than in urban and rural counties (Parker et al., 2018). The rise in suburban poverty coincides with an increasing prevalence of food insecurity. The social and physical environments of suburban communities pose unique food-related challenges for the suburban poor. Awareness and stigmatization of food assistance programs, lack of transportation options, access to food pantries, and limited community gardens are examples of challenges that many families face. With a growing suburban population facing poverty and food insecurity, Extension is positioned to address the complex problem of suburban food insecurity through community-engaged research and education involving the areas of family and consumer sciences, community development, agriculture and natural resources, and 4-H youth development.

Keywords: suburban food access, food deserts, food oasis, food access, community development, nutrition education, community capital framework, community engagement

Introduction

Suburban food insecurity and healthy food access continue to be a growing problem in America. However, there is little in the way of published reports, case studies, or peer-reviewed manuscripts that describe best practices for Extension to address the issue in the suburban context. More broadly, there remains a dearth of work published in Extension about suburban communities. Many published manuscripts dichotomize Extension work in terms of urban and rural. This practice and pedagogy article suggests ideas on how Extension can adapt best practices from rural and urban communities to address the unique issue of suburban food insecurity. More details on terms such as urban, suburban, and rural can be found in Appendix A.

Direct correspondence to Daniel Remley at remley.4@osu.edu

The Rise of Poverty and Food Insecurity in the Overshadowed Suburbs

To explore Extension's interdisciplinary engagement and educational role in food insecurity, it is essential to begin with an understanding of how the suburbs emerged and what is unique about these communities. Following World War II, suburban sprawl has characterized the growth patterns of many cities (Hanlon, 2010; Nelson, 1992). Reasons for suburbanization include an effort to address a severe post-war housing shortage, concerns about Black in-migration to midwestern and western central cities, school desegregation, home values, fear of racial integration, and the desire for more open space (Clotfelter, 2001; Nelson, 1992; Rothstein, 2017). Over time, suburban communities have become incredibly diverse, with suburbs close to central cities resembling urban-like communities, while suburbs located further from the city center seem more rural in nature, and still others fall somewhere in between these two extremes (Hanlon et al., 2006; Logan & Molotch, 2007; Lucy & Phillips, 1996). There are wealthy homogeneous suburbs and poorer diverse suburbs across this spectrum and across geographies. One defining feature of suburbs is expansion facilitated by transportation innovations. Early suburbs were known as streetcar suburbs, made accessible by the invention of the streetcar. Suburbs built after WWII were dependent upon the automobile and highway construction as they grew (Hanlon et al., 2006; Phelps & Wood, 2011).

Suburbs are characterized by their jurisdictional authority as independent municipalities taking the form of townships, villages, and small cities that are constantly competing for residents and tax base in metropolitan space (Hanlon et al., 2006; Sweeney & Hanlon, 2017). Despite the metropolitan competition, suburbs are regionally interdependent—their existence made possible by the presence of a central city and neighboring suburbs (Galster et al., 2001). The out-migration from urban and suburban areas has led to the development of communities that are neither fully suburban nor fully rural, otherwise referred to as the exurbs (Nelson, 1992). Exurban spaces are also characterized by their regional interdependence (Davis, & Nelson, 1994).

While for decades both suburban and exurban communities experienced substantial population growth in part due to out-migration from the urban core, the beginning of the housing crisis in 2008 marked a critical time period in which this trend slowed down, stalled, and over time migration to suburbia and exurbia ultimately reversed (Frey, 2017). From 2010 until 2014, the population in urban centers grew faster than suburban communities, leaving many new suburban developments partially incomplete, with homes in foreclosure and individuals at-risk of or experiencing poverty (Frey, 2017). Recently, migration to suburban communities has accelerated once more. In 2016, suburban counties experienced greater population growth than their urban counterparts in 72 out of 82 metropolitan areas with a population of 100,000 or more, most notably in the outermost exurban counties (Frey, 2017).

Immigrants have, since the 1980s, been bypassing central cities for suburban spaces, and this trend continues (Alba et al., 1999). According to the Brookings Institute, between 2000-2013,

76% of the growth in the foreign-born population who reside in the nation's largest metropolitan areas occurred in the suburbs (Wilson & Svajlenka, 2014). Enhanced employment opportunities, safe neighborhoods, stronger schools, and affordable housing served as some of the most salient reasons for this suburban growth (Wilson & Svajlenka, 2014).

How suburban municipalities are faring today, whether they are declining or maintaining their elite status, is very much dependent upon their position within metropolitan space, their relative age or that of their housing stock, and numerous other local factors (Hanlon, 2008, 2010). For example, according to the U.S. Census Bureau, the Cincinnati, Ohio, bedroom counties of Clermont and Warren claimed the second-highest median household incomes in Ohio (U.S. Census Bureau, 2018).

However, not every suburb or exurb is as economically advantaged as the Cincinnati region profile. Murphy (2010) identified three distinct classifications of declining suburbs in Pennsylvania based on economic, political, geographic, and social factors. Some suburbs, coined symbiotic suburbs (Murphy, 2010, p. 552–555), reside on the outer rings of large cities; however, due to various social determinants, they were recognized as poor and troubled economically. Others, described by Murphy as skeletal suburbs (Murphy, 2010, p. 555–560), were characterized as once-thriving locations of industry that were closed, consequently eliminating jobs and hindering economic well-being. The third type of suburb described fits the example in Cincinnati noted above and was referred to as the overshadowed suburb (Murphy, 2010, p. 560–564) known and described as a relatively affluent community with pockets of poverty. Clearly, suburbs are not merely extensions of their close urban neighbors, rather individual communities experiencing unique geographical, economic, and social disparities.

In the case of the overshadowed suburbs of Cincinnati, aggregate data can hide pockets of need in an otherwise affluent community. This is in part due to how America has traditionally built suburban communities. Suburban communities have historically been zoned predominantly single-family. When multifamily housing has been built, it is often segregated in small pockets, resulting in pocketed poverty in suburban spaces. For example, when analyzed from a macro perspective, or at the township or county level, incidences of poverty are a relatively small phenomenon in suburbia and exurbia. However, according to the Brookings Institute, 70.2% of all individuals living below 200% of the poverty level lived in the collective Cincinnati suburbs in the Cincinnati-Ohio-Kentucky-Indiana area, as compared to 29.8% in the central city (Kneebone & Garr, 2010). Nationally, in 2013, 30.8 million people in the nation's largest metro areas lived below the poverty line, which translated into a poverty rate of 15%, more than three percentage points higher than the 2000 metro area poverty rate of 11.6%. More than two-thirds of the increase in major metro poverty from 2000 to 2013 occurred in suburbs. Within these regions, the suburban poor population grew more than twice as fast as the urban poor population between 2000 and 2013 (66% versus 30%). By 2013, the suburbs accounted for 56% of the poor population in the nation's largest metro areas, with the number of poor in suburbs outstripping

the urban poor by 3.5 million (Kneebone & Holmes, 2014). The growth of poverty in suburban spaces is driven by changing public preferences toward density, mixed-use, and walkability, as well as the attractiveness of urban pre-World War II housing stocks that have made urban spaces more attractive (Dunham-Jones, 2005; Kelbaugh, 1997; Leinberger, 2011).

As suburban housing stocks age, they deteriorate much more quickly than pre-WWII housing stocks that were custom built using techniques that have stood the test of time. Meanwhile, post-WWII housing stocks are often manufactured or mass-produced, using building techniques that do not last as long. Many of these homes built in the 20 years after WWII were built exceptionally fast to meet a severe housing shortage, these Levittown-style subdivision homes are typically small and have declined over time (Hanlon, 2010; Lee & Leigh, 2007; Madden, 2003; Mikelbank, 2006; Puentes & Warren, 2006). As housing stocks decline, people with means tend to leave these older homes for newer homes with more amenities, often further from the city; this process is known as filtering (Bear & Williamson, 1988; Bier, 2001). Filtering is one process that is responsible for outer-ring suburban and exurban growth and for urban and inner-ring suburban neighborhood decline (Bier, 2001; Cooke & Marchant, 2006).

While demographic data points can cast a shadow to mitigate the recognition of significant need in suburban communities, factors such as unemployment and underemployment, resident migration, and changes to local and federal policy (e.g., state reductions in the local government fund) expose an uncomfortable truth—the potential for hunger has no zip code. Aligning with the growth and severity of suburban poverty is suburban food insecurity. Food security is a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance, social justice, and democratic decision-making (Hamm & Bellows, 2003; United States Department of Agriculture, 2009). Research suggests that suburbanites were equally as likely to be food insecure as urbanites, and more likely to be food insecure than rural residents after accounting for income and education (Coleman-Jensen, 2012). These statistics are supported by increased demand in suburban areas for food pantries and food assistance programs, especially by those who have never used charitable and social services (Allard & Roth, 2010; Andrews, 2010).

Food Access Challenges in the Suburbs

Food deserts, especially as conceptualized in urban or rural forms, tend to have few high-quality grocery stores, and due to lack of competition, are relatively pricey and offer few healthy food options (Mulangu & Clark, 2012). Some reports suggest that suburban and exurban communities are considered food oases that tend to be healthier and more food secure.

According to the County Health Rankings, Warren and Clermont Counties rank as some of the healthiest in Ohio (ranked 7th and 38th out of 88 counties) in health behaviors, healthy environments, and health outcomes (University of Wisconsin Population Health Institute, 2015). In a news article published in the *Cincinnati Enquirer*, Hamilton County lost four grocery stores,

whereas surrounding suburban and exurban counties such as Butler and Clermont opened 11 new grocery stores within a 10-year timeframe (Baverman, 2010).

However, researchers have suggested that affluent exurban and suburban communities have unique healthy food access and food insecurity problems that have been largely ignored. For example, although Cincinnati-Dayton exurban and suburban counties have gained many full-service grocery stores, access is dependent on one's ability to own and operate an automobile, the availability of safe sidewalks, and/or access to public transportation, the latter of which can vary greatly in the traditional suburban context (Kneebone & Garr, 2010). One study noted that suburban food pantry users have less access to public transportation (Garasky et al., 2004).

The social, cultural, and political environments of suburban and exurban communities also pose unique challenges to those that are food insecure. The Brookings Institute reported that those living in exurban or suburban communities showed lower food stamp usage rates than their city counterparts. In cities, 39.2% of families used food stamps as compared to 32% in the suburbs (Kneebone & Garr, 2010). Suburban food pantry users have also reported that they are less likely to participate in food assistance programs or be aware of community gardens (Garasky et al., 2004). The authors offered few explanations for these findings, but speculations include lack of knowledge, stigmatization associated with using public assistance, difficulties accessing food stamp offices (often located in urban centers), and transportation problems. Suburban social service offices often have larger areas to cover, especially when considering exurban communities (Murphy & Wallace, 2010). Suburban communities have fewer food pantries per resident than principal cities, and food-insecure individuals were often less aware of them (Coleman-Jensen, 2012). The findings suggest that public policy and entities such as local government, Extension, food banks, religious affiliations, social service agencies need to address the unique needs of food-insecure families in suburbia.

To address issues of food insecurity, suburban nonprofits and social service agencies often have unique challenges procuring resources through grants and fundraising. In the case of overshadowed suburbs, aggregate demographic data pose a challenge and often serve as a hurdle toward justifying the prevalence of food insecurity among this demographic (Murphy, 2010).

How Can Extension Respond?

How is Extension responding to suburban food insecurity? Although there are many successful case studies of Extension responding to urban food insecurity through SNAP-Ed and Expanded Food and Nutrition Education Program (EFNEP) programming or facilitating community gardens and food policy councils (Blaine et al., 2010), there are few peer-reviewed manuscripts on the topic of how Extension has or could mitigate issues of suburban food insecurity. In fact, there is a lack of literature about suburban food insecurity and related social services in general. Since Extension is connected with land-grant universities, it has a mission to engage with communities and offer research-based education programs in the areas of family and consumer

sciences, community development, 4-H youth development, and agriculture and natural resources. As such, Extension can provide leadership, engaged research, and programming focused on the unique and often overlooked challenges of food insecurity.

How can the Extension disciplines address the unique challenges many suburban food-insecure families face? In addition to the following examples, Table 1 includes a summary of rural, urban, and suburban distinctions focused on community characteristics, Extension work context, food insecurity indicators, and Extension practice to address food insecurity and healthy food access.

Table 1. Rural, Urban, and Suburban Perspectives

| Topic | Rural | Urban | Suburban |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Community Characteristics | Low population density, often homogeneous ethnically. High poverty rates. | Large population density, diverse ethnically. Diverse economically. | Mix of urban and rural and usually comprised of townships and small cities. Growing population density, growing ethnic populations. Generally wealthier, but pockets of poverty. |
| Extension Work Context | Small offices, traditional, ag/4-H focused. | Large staff, multidisciplinary programs. | Traditional, large staff, moving toward multidisciplinary programs. |
| Food Insecurity Indicators | High rates. Limited grocery store options, transportation challenges. High prices. More stigma. | High rates. Many areas have limited grocery stores. Many transportation options. Less stigma. More awareness of social service agencies. | Low rates, but collectively large raw numbers. Lack of awareness. Many grocery stores but transportation challenges. Stigma prevalent. Social services often not centrally located in communities or low awareness of these services. |
| Extension practices to address food insecurity and healthy food access | Bring partners together through food councils, coalitions. Address transportation challenges and stigma. | Bring partners together through food councils, coalitions to address land zoning. Provide multi-ethnic programming. | Bring partners together through food councils and coalitions. Use community capital framework. Consider nutrition needs of growing ethnic groups participating in food pantries, gardens, and nutrition education. Make use of green space to build community gardens. Address stigma. Involve 4-H youth, especially teens, in programs. |

Community Development

Given the innate wealth of expertise held by Extension practitioners, the organization is primed and positioned to address issues of food security where the genesis of the issue resides at the intersection of politics, policy, and place. Food insecure communities within a suburban township may not have the ability or knowledge as to how to strategically voice their concerns and needs to local governments or those with influence. Extension professionals could facilitate an engagement process using the Community Capital Framework (Flora, 2009). The Community Capital Framework identifies seven types of capital: natural, cultural, human, social, political, financial, and built. Beyond identifying the capital resources and their role, this approach focuses on the interaction amongst these seven types of capital and how they could enhance one another. Examples of these efforts could include

- The creation of a local food policy council could influence zoning laws that affect where and what food is grown. Extension has been involved in creating rural and urban food policy councils as a means to extend research, providing a sustainable group to continue improving local food systems.
- City- and state-owned spaces, typically featuring trees and flowers, beautifying the landscape and welcoming visitors and residents. These spaces could be transformed to feed by planting edible plants and creating collaboration outlined in the Community Capital Framework (McLain et al., 2012).
- Extension-led community gardens that might enhance natural capital and financial capital within suburban communities. Preliminary research suggests that property values are increased by high-quality community gardens in urban areas (Voicu & Been, 2008).

Family and Consumer Sciences

Nutrition education, provided by SNAP-Ed or EFNEP program assistants, could be beneficial in terms of helping low-income suburban and exurban residents understand how to enhance their grocery shopping experience, eat healthier, and stretch their food dollar. EFNEP, in particular, has been successful in terms of recruiting large classes and also changing knowledge and self-reported nutrition behavior within urban areas (Dollahite et al., 2003). Urban best practices related to nutrition education might be applied by program assistants working within growing suburban communities as well. Examples might include providing culturally appropriate recipes for growing ethnic audiences or helping participants navigate unique food access challenges. Residents without cars who bike, walk, or get rides to the grocery store, given limited transportation opportunities, may have to consider the weight of the food they choose as well as shelf life.

Nutrition education programs could help suburban residents understand how to make nutritious and economical choices in the context of their situations. However, the documented stigma associated with the moniker "SNAP" could carry over to the SNAP-Ed nutrition education

program, negatively impacting participation rates (Garasky et al., 2004; Kneebone & Garr, 2010). Marketing and advertising SNAP-ED or EFNEP in suburban communities need to be mindful of the cultural climate. In addition to engaging residents in SNAP-Ed and EFNEP education, family and consumer science educators are well-positioned to partner with agriculture and natural resources Extension professionals to co-facilitate workshops on home food production and preservation. Furthermore, for suburban residents who may experience chronic illness, programs such as Dining with Diabetes can serve as a catalyst for the organic development of community, fostering social support among a vulnerable population, hence sharing knowledge regarding opportunities to gain access to and effectively utilize food resources for improved health.

Agriculture and Natural Resources

A study of food pantry users in rural, urban, and suburban Iowa indicated suburban residents viewed community gardens as less available in their communities (Garasky et al., 2004). Extension has helped establish successful community gardens in low-income urban communities (Hallberg, 2009). Could these same types of programs be successful in the suburbs or exurbs? Suburban communities most likely have more green space and healthier soil than urban contexts, given the lower population density. In many communities, there is unused land available for gardens or production sites of small-scale agriculture. Furthermore, agriculture and natural resources Extension educators can leverage pre-existing curricula such as the Master Urban Farmer and Master Gardener programs to teach suburban home food production techniques, hence equipping residents with knowledge to produce their own food and, thus, mitigating incidences of food insecurity. In addition, participants must complete volunteer service to become certified. In suburban communities, there could potentially be an abundant number of opportunities to facilitate or lead community garden projects if land and human and financial capital are available. Extension volunteer program models could be more cost-effective and relevant to local needs within suburban areas (Yarber et al., 2015).

Social justice is an aspect of food security that is often overlooked. This is especially true within the realm of agriculture and natural resources, with a history of policies discriminating against minorities (Reynolds et al., 1990). Expansion of agriculture programs needs to consider the entire population of suburban areas, avoiding the data trap, emphasizing cultivating equity. Agricultural and natural resources could also help gardeners grow ethnically and culturally appropriate foods, especially if they are first-generation immigrants. Ethnic community gardens have been successful in urban areas in terms of production of conventional and ethnic herbs and vegetables and hosting various social, cultural, and educational events (Saldivar-Tanaka, 2004). Similar gardens could be encouraged and facilitated in suburban or exurban, considering their changing demographics.

Youth Development

Youth who live in food-insecure households have unique experiences, especially within suburban schools where food assistance programs might be stigmatized (Bhatia et al., 2011; Mirtcheva & Powell, 2009). Although stigmatization may exist, schools participating in the National School Lunch Program serve as effective gateways to address hunger, health, and nutrition (Gundersen et al., 2012). Schools participating in the National School Lunch Program in Ohio are mandated to have school wellness policies, typically created by a school wellness committee made up of teachers, parents, and community wellness professionals. Allowing youth to serve on these committees could introduce policy and community organizing, empowering them by letting their voices and opinions be heard. Student involvement in policies that change the food landscape in schools could reduce stigma and increase participation. Backpack programs coordinated by organizations such as the Mid-Ohio Foodbank have been deemed a successful means to incorporate healthy foods in food-insecure households in a nonthreatening way (Feeding America, 2016). 4-H Extension professionals and 4-H youth could partner with said organizations and supplement backpack food donations with health messaging, recipes, and/or resources that highlight local opportunities to acquire sustained access to nutritious foods.

Teenagers also experience unique circumstances concerning food insecurity. Most programs target elementary-aged children or adults, causing teens to fall through the cracks of our food assistance system (Seligman et al., 2015; Waxman et al., 2016). Furthermore, many older youth might also be responsible for shopping and meal preparation due to parents of low-income families working two or more jobs to make ends meet (Waxman et al., 2016). Youth development programs, such as 4-H, are well-positioned to offer skills such as food preparation and nutrition to teens. In addition to nutrition, 4-H promotes leadership, public speaking, and citizenship skills, which might cultivate food citizens capable of improving their health and well-being and their food environments (Write & Nault, 2013). The suburbs and exurbs have the advantage of being on the fringe of rural areas, where strong 4-H programs could recruit food-insecure youth.

Examples of Extension Partnering with Organizations to Address Suburban Food Insecurity

Addressing issues of suburban food insecurity is undoubtedly a growing concern across Ohio. Franklin County, the largest and most affluent county in the state, is also not immune to this challenge. Westerville, an affluent suburb within the county, enjoys a healthy median family income of \$110,686; however, the symptoms of poverty hiding in plain sight remain. The suburb has established the Westerville Area Resource Ministry (WARM) with the mission to join the fight against hunger as well as provide short-term financial, educational, and employment assistance and spiritual support to help residents accomplish a sense of self-sufficiency. The

Expanded Food and Nutrition Program (EFNEP) has been a key partner with WARM, providing classes on nutrition, food budgeting, and food safety to residents.

In suburban West Chester within Butler County, Ohio, many low-income families experience food insecurity and barriers to accessing healthy foods. OSU Extension, along with community partners, employed HEALth MAPPS (John et al., 2017), where residents participated as researchers using participatory photo mapping to explore the lived experiences of food-insecure residents in this affluent community. The researchers documented many physical barriers to accessing healthy food, including a lack of sidewalks, dangerous traffic at intersections, and crowded parking lots that make it unsafe to walk for food items. The participatory researchers also recognized the need to purchase fruits and vegetables but noted financial challenges as a barrier to doing so. The findings of HEALth MAPPS were used to raise awareness and engage the larger community around the topics of food insecurity and healthy food access.

Conclusion

Food insecurity is a complex problem that should be addressed at many levels. Unique aspects of food insecurity in suburban communities include transportation barriers, stigmatization of food assistance programs, lack of awareness of food assistance or community programs, and perhaps underappreciation of the extent of the problem. The presented examples illustrate the value of engaging all Extension disciplines in community engagement projects such as food policy councils or community gardens. Programs such as Master Gardeners employing the train-the-volunteer model could increase the number of community gardens. Community development skills are needed to address various community capitals, such as addressing the lack of public transportation to and from gardens, grocery stores in suburban communities, or connecting with social services. Family and consumer sciences could help suburbanites understand how to make healthy choices in the context of environments or learn food preservation skills to extend the availability of garden harvest. Finally, involving youth in every aspect of building a sustainable and healthy food system will help create a culture shift, one of which healthy food is a priority. Innovative programs that address suburban food insecurity could involve elements of all Extension disciplines through reworking the wheel but not reinventing it.

Multidisciplinary programming might be more prevalent in urban Extension programs, but possibly not as much in suburban, where silo approaches to 4-H or agriculture still might be the cultural norm. However, as rural counties become more suburban, urban best practices need to be considered and applied, especially when addressing the complex and often overlooked problem of suburban food insecurity. Striking a balance between maintaining strong traditional programs yet innovating and adapting urban best-practices should carefully be considered in strategic planning at the local, state, and national levels.

Finally, during the 2020 pandemic and beyond, Extension could successfully engage with suburban audiences using online platforms. Internet and digital access are greater in the suburbs than in rural and urban environments (Perrin, 2020).

References

- Alba, R. D., Logan, J. R., Stults, B. J., Marzan, G., & Zhang, W. (1999). Immigrant groups in the suburbs: A reexamination of suburban and spatial assimilation. *American Sociological Review*, 64(3), 446–460. <https://doi.org/10.2307/2657495>
- Allard, S. W., & Roth, B. (2010). *Strained suburbs: The social service challenges of rising suburban poverty*. Brookings. http://www.brookings.edu/~media/research/files/reports/2010/10/07-suburban-poverty-allard-roth/1007_suburban_poverty_allard_roth.pdf
- Andrews, M. (2010). More Americans relied on food assistance during recession. *Amber Waves*, 8(4), 2009–2011. <http://www.ers.usda.gov/amber-waves/2010-december/more-americans-relied-on-food-assistance-during-recession.aspx#.VPi1iE0tGM8>
- Baverman, L. (2010, May 16). Grocer trends create food deserts. *The Cincinnati Enquirer*.
- Bear, W. C., & Williamson, C. B. (1988). The filtering of households and housing units. *Journal of Planning Literature*, 3(2), 127–152. <https://doi.org/10.1177/088541228800300201>
- Bhatia, R., Jones, P., & Reicker, Z. (2011). Competitive foods, discrimination, and participation in the national school lunch program. *American Journal of Public Health*, 101(8), 1380–1386. <https://doi.org/10.2105/AJPH.2011.300134>
- Bier, T. (2001). *Moving up, filtering down: Metropolitan housing dynamics and public policy*. Brookings. <https://www.brookings.edu/research/moving-up-filtering-down-metropolitan-housing-dynamics-and-public-policy/>
- Blaine, T., Grewal, P., Dawes, A., & Snider, D. (2010). A community garden profile. *Journal of Extension*, 48(6), Article v-48-6a6. <http://www.joe.org/joe/2010december/a6.php>
- Clotfelter, C. T. (2001). Are whites still fleeing? Racial patterns from enrollment shifts in urban public schools, 1987-1996. *Journal of Policy Analysis and Management*, 20(2), 199–221. <https://doi.org/10.1002/pam.2022>
- Coleman-Jensen, A. (2012). Predictors of U.S. food insecurity across nonmetropolitan, suburban, and principal city residence during the great recession. *Journal of Poverty*, 16(4), 392–411. <https://doi.org/10.1080/10875549.2012.720657>
- Cooke, T. J., & Marchant, S. (2006). The changing intrametropolitan location of high poverty neighbourhoods in the US 1990-2000. *Urban Studies*, 43(11), 1971–1989. <https://doi.org/10.1080/00420980600897818>
- Davis, J. S., & Nelson, A. C. (1994). The new 'burbs. The exurbs and their implications for planning policy. *Journal of the American Planning Association*, 60(1), 45–59. <https://doi.org/10.1080/01944369408975551>

- Dollahite, J., Olson, C., & Scott-Pierce, M. (2003). The impact of nutrition education on food insecurity among low-income participants in EFNEP. *Family and Consumer Sciences Research Journal*, 32(2), 127–139. <https://doi.org/10.1177/1077727X03032002003>
- Dunham-Jones, E. (2005). Suburban retrofits, demographics, and sustainability. *Places*, 17(2), 8–19. <https://escholarship.org/uc/item/7758q0hf>
- Feeding America. (2016). *Backpack program*. <http://www.feedingamerica.org/about-us/helping-hungry-children/backpack-program>
- Flora, C. B. (2009). Social aspects of small water systems. *Journal of Contemporary Water Research & Education*, 128(1), 6–12. <https://doi.org/10.1111/j.1936-704X.2004.mp128001002.x>
- Frey, W. H. (2017). *City growth dips below suburban growth, census shows*. Brookings. <https://www.brookings.edu/blog/the-avenue/2017/05/30/city-growth-dips-below-suburban-growth-census-shows/>
- Galster, G., Hanson, R., Ratcliffe, M. R., Wolman, H., Coleman, S., & Freihage, J. (2001). Wrestling sprawl to the ground: Defining and measuring an elusive concept. *Housing Policy Debate*, 12(4), 681–717. <https://doi.org/10.1080/10511482.2001.9521426>
- Garasky, S., Morton, L., & Greder, K. (2004). The food environment and food insecurity: Perceptions of rural, suburban, and urban food pantry clients in Iowa. *Family Economics and Nutrition Review*, 16(2), 41–48. http://lib.dr.iastate.edu/hdfs_pubs/5/
- Gundersen, C., Kreider, B., & Pepper, J. (2012). The impact of the national school lunch program on child health: A nonparametric bounds analysis. *Journal of Econometrics*, 166(1), 79–91. <https://doi.org/10.1016/j.jeconom.2011.06.007>
- Hallberg, D. (2009). *Using community gardens to augment food security efforts in low-income communities*. Virginia Tech University. http://www.ipg.vt.edu/Papers/Hallberg_Major_Paper.pdf
- Hamm, M. W., & Bellows, A. C. (2003). Community food security: Background and future directions. *Journal of Nutrition Education and Behavior*, 35(1), 37–43. [https://doi.org/10.1016/S1499-4046\(06\)60325-4](https://doi.org/10.1016/S1499-4046(06)60325-4)
- Hanlon, B. (2008). The decline of older, inner suburbs in metropolitan American. *Housing Policy Debate*, 19(3), 423–456. <https://doi.org/10.1080/10511482.2008.9521642>
- Hanlon, B. (2010). *Once the American dream: Inner-ring suburbs of the metropolitan United States*. Temple University Press.
- Hanlon, B., Vicino, T., & Short, J. R. (2006). The new metropolitan reality in the US: Rethinking the traditional model. *Urban Studies*, 43(12), 2129–2143. <https://doi.org/10.1080/00420980600936525>
- John, D., Winfield, T., Etuk, L., Hystad, P., Langellotto, G., Manore, M., & Gunter, K. (2017). Community-engaged attribute mapping: Exploring resources and readiness to change the rural context for obesity prevention. *Progress in Community Health Partnerships: Research, Education, and Action*, 11(2), 183–196. <https://doi.org/10.1353/cpr.2017.0023>

- Kelbaugh, D. (1997). The new urbanism. *Journal of Architectural Education*, 51(2), 142–144. <https://doi.org/10.1080/10464883.1997.10734764>
- Kneebone, E., & Garr, E. (2010). *The suburbanization of poverty: Trends in metropolitan America, 2000-2008*. Brookings. http://www.brookings.edu/~media/research/files/papers/2010/1/20-poverty-kneebone/0120_poverty_paper.pdf
- Kneebone, E., & Holmes, N. (2014). *New census data show few metro areas made progress against poverty in 2013*. Brookings. <https://www.brookings.edu/research/new-census-data-show-few-metro-areas-made-progress-against-poverty-in-2013/>
- Lee, S., & Leigh, N. G. (2007). Intrametropolitan spatial differentiation and decline of inner-ring suburbs: A comparison of four U.S. metropolitan areas. *Journal of Planning Education and Research*, 27(2), 146–164. <https://doi.org/10.1177/0739456X07306393>
- Leinberger, C. B. (2011, November 25). The death of the fringe suburb. *The New York Times*.
- Logan, J. R., & Molotch, H. L. (2007). *Urban fortunes: The political economy of place*. University of California Press.
- Lucy, W. H., & Phillips, D. L. (1996). The post-suburban era comes to Richmond: City decline, suburban transition and exurban growth. *Landscape and Urban Planning*, 36(4), 259–275. [https://doi.org/10.1016/S0169-2046\(96\)00358-1](https://doi.org/10.1016/S0169-2046(96)00358-1)
- Madden, J. F. (2003). The changing spatial concentration of income and poverty among suburbs of large US metropolitan areas. *Urban Studies*, 40(3), 481–503. <https://doi.org/10.1080/0042098032000053888>
- McLain, R., Poe, M., Hurley, P. T., Lecompt-Mastenbrook, J., & Emery, M. (2012). Producing edible landscapes in Seattle's urban forest. *Urban Forestry and Urban Greening*, 11(2), 187–197. <https://doi.org/10.1016/j.ufug.2011.12.002>
- Mikelbank, B. A. (2006). Local growth suburbs: Investigating change within the metropolitan context. *Oplis*, 2(1), 1–15. <https://escholarship.org/uc/item/9k67874n>
- Mirtcheva, D. M., & Powell, L. M. (2009). Participation in the national school lunch program: Importance of school-level and neighborhood contextual factors. *The Journal of School Health*, 79(10), 485–494. <https://doi.org/10.1111/j.1746-1561.2009.00438.x>
- Mulangu, F., & Clark, J. (2012). Identifying and measuring food deserts in rural Ohio. *Journal of Extension*, 50(3), Article 3FEA6. http://www.joe.org/joe/2012june/pdf/JOE_v50_3a6.pdf
- Murphy, A. K. (2010). The symbolic dilemmas of suburban poverty: Challenges and opportunities posed by variations in the contours of suburban poverty. *Sociological Forum*, 25(3), 541–569. <https://doi.org/10.1111/j.1573-7861.2010.01195.x>
- Murphy, A. K., & Wallace, D. (2010). Opportunities for making ends meet and upward mobility: Differences in organizational deprivation across urban and suburban poor neighborhoods. *Social Science Quarterly*, 91(5), 1164–1186. <https://doi.org/10.1111/j.1540-6237.2010.00726.x>
- Nelson, A. (1992). Characterizing exurbia. *Journal of Planning Literature*, 6(4), 350–368. <https://doi.org/10.1177/088541229200600402>

- Parker, K., Horowitz, J. M., Brown, A., Fry, R., Cohn, D., & Igielnik, R. (2018) *What unites and divides urban, suburban and rural communities*. Pew Research Center.
<https://www.pewresearch.org/social-trends/2018/05/22/what-unites-and-divides-urban-suburban-and-rural-communities/>
- Perrin, A. (2019). *Digital gap between rural and nonrural America persists*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2019/05/31/digital-gap-between-rural-and-nonrural-america-persists/>
- Phelps, N. A., & Wood, A. M. (2011). The new post-suburban politics? *Urban Studies*, 48(12), 2591–2610. <https://doi.org/10.1177/0042098011411944>
- Puentes, R., & Warren, D. (2006). *One-fifth of America: A comprehensive guide to America's first suburbs*. Brookings.
<http://www.brookings.edu/research/reports/2006/02/metropolitanpolicy-puentes>
- Reynolds, K. D., Killen, J. D., Bryson, S. W., Maron, D. J., Taylor, C. B., Maccoby, N., & Farquhar, J. W. (1990). Psychosocial predictors of physical activity in adolescents. *Preventive Medicine*, 19(5), 541–551. [https://doi.org/10.1016/0091-7435\(90\)90052-L](https://doi.org/10.1016/0091-7435(90)90052-L)
- Rothstein, R. (2017). *The color of law: A forgotten history of how our government segregated America*. Liveright Publishing Corporation.
- Saldívar-Tanaka, L. (2004). Culturing neighborhood open space, civic agriculture, and community development: The case of Latino community gardens in New York City. *Agriculture and Human Values*, 21, 399–412. <https://doi.org/10.1007/s10460-003-1248-9>
- Seligman, H. K., Lyles, C., Marshall, M. B., Prendergast, K., Smith, M. C., Headings, A., Bradshaw G., Rosenmoss S., & Waxman, E. (2015). A pilot food bank intervention featuring diabetes-appropriate food improved glycemic control among clients in three states. *Health Affairs*, 34(11), 1956–1963. <https://doi.org/10.1377/hlthaff.2015.0641>
- Sweeney, G., & Hanlon, B. (2017). From old suburb to post-suburb: the politics of retrofit in the inner suburb of Upper Arlington, Ohio. *Journal of Urban Affairs*, 39(2), 241–259.
<https://doi.org/10.1111/juaf.12313>
- United States Department of Agriculture. (2009). *Access to affordable and nutritious food—measuring and understanding food deserts and their consequences: Report to congress* [Administrative Publication No. AP-036]. United States Department of Agriculture, Economic Research Service.
https://www.ers.usda.gov/webdocs/publications/42711/12716_ap036_1_.pdf?v=9740.8
- University of Wisconsin Population Health Institute. (2015). *County health rankings and roadmaps*. <http://www.countyhealthrankings.org/>
- U.S. Census Bureau. (2018). *U.S. Census 2018 5-year estimates*.
https://www.socialexplorer.com/tables/ACS2018_5yr/R12603031
- Voicu, I., & Been, V. (2008). The effect of community gardens on neighboring property values. *Real Estate Economics*, 36(2), 241–283. <https://doi.org/10.1111/j.1540-6229.2008.00213.x>

- Waxman, E., Popkin, S. J., & Galvez, M. (2016). *Bringing teens to the table: A focus on food insecurity in America*. Urban Institute.
https://www.urban.org/sites/default/files/publication/98011/exploring_teen_food_insecurity_in_portland_oregon.pdf
- Wilson, J. H., & Svajlenka, S. P. (2014). *Immigrants continue to disperse, with fastest growth in the suburbs*. Brookings.
- Write, W., & Nault, K. (2013). Growing youth food citizens. *Journal of Extension*, 51(3), Article v51-3iw2. <http://www.joe.org/joe/2013june/iw2.php>
- Yarber, L., Brownson, C., Jacob, R. R., Baker, E. A., Jones, E., Baumann, C., Deshpande, A. D., Gilleppe, K. N., Sharff, D. P., & Brownson, R. C. (2015). Evaluating a train-the-trainer approach for improving capacity for evidence-based decision making in public health. *BMC Health Services Research Volume*, 15, Article 547. <https://doi.org/10.1186/s12913-015-1224-2>

Daniel T. Remley, MSPH, PhD, is an Assistant Professor and Field Specialist in Food, Nutrition, and Wellness for Ohio State University (OSU) Extension. Dr. Remley holds a master's in science in Public Health from Alabama-Birmingham and a Doctorate in Nutritional Sciences from the University of Kentucky. Dr. Remley's research and Extension focus areas include diabetes education, healthy food systems, and workplace wellness.

Glennon Sweeney is a senior research associate at the Kirwan Institute for the Study of Race and Ethnicity. She joined Kirwan in 2011 and began leading the Institute's food justice work in 2014. Her work focuses on issues related to food security and access, metropolitan neighborhood change, and community-university collaboration. Glennon holds a Bachelor's in geography and political science, a master's in city and regional planning, and is currently working on her PhD in city and regional planning.

Julie Fox, PhD, is an Associate Professor with the Ohio State University College of Food, Agricultural & Environmental Sciences. She serves on the OSU Extension Leadership Team as Director of Strategic Initiatives and Urban Engagement.

Laquore J. Meadows, PhD, serves as the Director of OSU Extension, Franklin County. Prior to joining OSU Extension, she worked for nearly a decade leading federally sponsored projects at The Ohio State University. Meadows attained a bachelor's degree in psychology from Tennessee State University, a master's in college student personnel from Miami University, and a PhD in higher education administration from Ohio University.

Acknowledgement

The authors wish to acknowledge Michelle Gaston, Ohio State University Extension program coordinator, for her editing and formatting assistance.

Appendix A

Demographic Terms and Definitions

Metropolitan Statistical Area – county-based geographic clusters that correspond to densely settled areas with economic/cultural ties and consists of one or more counties that contain a city of 50,000 or more inhabitants, or contain a Census Bureau-defined urbanized area (UA) and have a total population of at least 100,000

Principal city – a city that contains the primary population and economic center of a metropolitan statistical area OR a core area with a large population nucleus and adjacent communities that are highly integrated economically or socially with the core

Suburban – an area located outside a principal city and inside an urbanized area

Exurban – a region or settlement that lies outside a city and usually beyond its suburbs

Primary city – the leading city in a region that serves as a center of governments and economic systems and is disproportionately larger than any others in the urban hierarchy

Central city – a city that constitutes the densely populated center of a metropolitan area